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Claims:

1. Profiled strip for framing and/or joining wall panel elements, preferably for erecting buildings, cladding and similar on the basis of a prefabricated system, in particular for buildings with a wooden base frame or support structure, characterised in that the profiled strip (6, 8, 16, 29, 37, 46, 57) has at least one interlocking cavity (9, 17, 18, 30, 31, 44, 45, 47, 48, 63, 64) for the wall panel elements (68, 90).

2. Profiled strip as claimed in claim 1, characterised in that the interlocking cavity(ies) (9, 17, 18, 30, 31, 44, 45, 47, 48, 63, 64) is or are formed by interlocking webs (10, 11, 19 to 22, 32 to 35, 38 to 41, 49 to 52, 58 to 61) of differing widths, the respective wider web being designed as a mounting web (10, 19, 21, 32, 34, 38, 39, 50, 52, 58, 59).

3. Profiled strip as claimed in claim 2, characterised in that the mounting web or mounting webs (10, 19, 21, 32, 34, 38, 39, 50, 52, 58, 59) are provided with mounting

orifices (12, 23, 35a, 55, 62).

4. Profiled strip as claimed in claim 3, characterised in that the mounting orifices (12, 23, 35a, 55, 62) are provided in the form of slots disposed at regular intervals.

5. Profiled strip as claimed in one of claims 1 to 4, characterised in that the profiled strip (6, 8, 16, 29, 37, 46, 57) is made form a material that is easy to work with, in particular easy to saw.

6. Profiled strip as claimed in claim 5, characterised in that the profiled strip (6, 8, 16, 29, 37, 46, 57) is made from plastics, in particular from PVC rigid.

7. Profiled strip as claimed in one or more of claims 1 to 6, characterised in that the width of the respective interlocking cavity (30, 31, 44, 45, 47, 48, 63, 64) tapers from the inside towards the outside, at least in the region of the interlock opening.

8. Profiled strip as claimed in one of more of claims 1 to 7, characterised in that a covering web (13) is moulded onto the rear face of the interlocking cavity (9).

9. Profiled strip as claimed in claim 8,

characterised in that the covering web (13) extends at a right angle to the mounting web (10).

10. Profiled strip as claimed in claim 2 and claim 8 or 9, characterised in that the narrower interlocking web (11) initially extends from the join with the mounting web (10) at an acute angle thereto.

11. Profiled strip as claimed in one or more of claims 1 to 7, characterised in that the profiled strip (16, 29, 37, 46, 57) has two interlocking cavities (17, 18, 30, 31, 38, 39, 47, 48, 63, 64).

12. Profiled strip as claimed in claim 11, characterised in that the interlocking cavities (30, 31, 44, 45, 47, 48, 63, 64) stand at a right angle to one another.

13. Profiled strip as claimed in claim 11 or 12, characterised in that the profiled strip (16, 29, 37, 46, 57) is of a symmetrical folding design.

14. Profiled strip as claimed in one or more of claims 1 to 13, characterised in that the interlocking cavities (17, 18, 30, 31, 44, 45, 47, 48) are joined to one another by their rear faces.

15. Profiled strip as claimed in claim 14, characterised in that the interlocking cavities are joined to one another by a connecting web (24, 36, 43, 56, 67).

16. Profiled strip as claimed in claim 15, characterised in that the interlocking cavities (30, 31, 43, 44) have a common connecting web (36, 43) forming their rear wall.

17. Profiled strip as claimed in claim 16, characterised in that the narrower interlocking webs (33, 35, 40, 41) are joined to one another in a rounded arrangement.

18. Profiled strip as claimed in claim 15, characterised in that the connecting web (56, 57) is respectively moulded onto the narrower interlocking webs (49, 51, 60, 61).

19. Profiled strip as claimed in claim 18, characterised in that the narrower interlocking webs (49, 51) of the interlocking cavities (47, 48) disposed at an angle relative to one another lie on the outside and the connecting web (56) respectively forms a straight extension thereof.

20. Profiled strip as claimed in claim 18, characterised in that the

narrower interlocking webs (60, 61) of the interlocking cavities (63, 64) disposed at an angle relative to one another lie on the inside and the connecting web (67) extends perpendicular to the line bisecting the angle.

21. Profiled strip as claimed in claim 20, characterised in that the connecting web (67) is moulded onto the free edges of the interlocking webs (60, 61).

22. Profiled strip as claimed in one or more of claims 18 to 21, characterised in that the interlocking cavities (47, 48, 63, 64) are of a U-shaped design.

23. Profiled strip as claimed in claim 15, characterised in that the connecting web (24) is designed in the form of a hinge.

24. Profiled strip as claimed in claim 23, characterised in that the hinge is a plastically deformable connecting web (24).

25. Profiled strip as claimed in claim 24, characterised in that the connecting web (24) is made from the same material as the profiled strip (16).

26. Profiled strip as claimed in one or more of claims

23 to 25, characterised in that the connecting web (24) is moulded onto the rear edges of the respective wider interlocking webs (19, 21).

27. Profiled strip as claimed in one or more of claims 23 to 26, characterised in that each of the two interlocking webs (20, 22) is joined to the respective other one by means of a web part extending at an acute angle thereto.

28. Profiled strip as claimed in claim 27, characterised in that the acute angle is at most 45E.

29. Profiled strip as claimed in claim 27 or 28, characterised in that the interlocking webs (20, 22) with the web part extending at an acute angle are the narrower webs.

30. Wall panel element for producing walls, preferably for buildings, cladding and similar erected on the basis of a prefabricated system, in particular for buildings with a wooden base frame or support structure, the wall panel elements preferably being designed to interlock with profiled strips as claimed in one of claims 1 to 29, characterised in that at least two opposing side faces (72, 73, 94, 98) of the wall panel element (68, 90) are designed as complementary parts of an interlocking connection, producing a mutual overlap when placed alongside

another wall panel element (68, 90) of an identical design.

31. Element as claimed in claim 30, characterised in that hooking strips (74, 75) are moulded onto the side faces (72, 73) for hooking the wall panel elements (68) into one another.

32. Element as claimed in claim 31, characterised in that the hooking strips (74, 75) are disposed opposite one another and point in opposite directions.

33. Element as claimed in claim 31 or 32, characterised in that the side faces (72, 73) have pieces (78, 79) extending beyond the hooking strips (74, 75) to provide a mutual overlap.

34. Element as claimed in claim 33, characterised in that one of the two extended pieces is designed to serve as a mounting strip (78) with mounting orifices (80).

35. Terminal strip in which the side faces of the wall panel element having no mounting strip as claimed in claim 34 are inserted, characterised by a hooking strip (87) and a mounting strip (88) with mounting orifices (89).

36. Element as claimed in claim 30, characterised in that one of the side faces (94) has an interlocking groove (95) into which the oppositely lying side face (98), of matching design, of a wall panel element (90) of this type slots.

37. Element as claimed in claim 36, characterised in that the side face (94) with the interlocking groove (95) has an extension (96) with mounting orifices (97).

38. Element as claimed in claim 37, characterised in that the wall panel element (90) has an indentation in the region lying opposite the mounting orifices (97) once the adjacent wall panel element (90) is inserted in the interlocking groove (95).

39. Element as claimed in one or more of claims 36 to 38, characterised in that at least one of the interlocking groove faces has an inwardly projecting edge and the oppositely lying side face (98) has an edge projecting in the opposite direction with an adjoining recess on the flat face (92).

40. Element as claimed in one or more of claims 30 to 39, characterised in that the wall panel element (68, 90) is of a double-walled design.

41. Element as claimed in claim 40, characterised in that the walls (69, 70, 91, 92) of the wall panel elements (68, 90) are joined by cross-pieces (71, 93).

42. Element as claimed in one or more of claims 30 to 41, characterised in that the wall panel element (68, 90) is made from a material that is easy to work with, in particular easy to saw, for example plastics.

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Profiled strip and wall panel element for buildings or similar to be erected on the basis of a prefabricated system

The invention relates to profiled strips for framing and/or joining wall panel elements for buildings, cladding and similar designed to be built on a prefabricated basis, in particular for buildings with a wooden base frame or support structure and a wall panel element specifically designed to slot into this profiled strip.

There is a constant demand for buildings which can be erected rapidly and from the most basic possible materials, in particular houses, stabling or smaller units, as well as for cladding systems or similar, the individual parts of which are easy to transport. This demand is driven in particular by the increasing number of new housing developments in areas not especially well connected to transport links as well as the lack of conventional and expensive building materials in many regions of the world. Such buildings are also needed for bigger inspection and installation works in such areas or as a means of rapidly providing emergency

accommodation for people in the wake of natural disasters.

To enable these buildings to be erected rapidly, even by untrained persons with the most basic of tools, the individual parts need to be of an uncomplicated design and easy to assemble. Furthermore, these individual parts must also be easy to transport, since transport links in these regions are usually poor and in any event there are usually not enough cranes or suchlike equipment for unloading and erecting the buildings.

At odds with the requirement that the individual parts used for such buildings should be of as simple a design as possible is the fact that increasingly high demands are being placed on these buildings in terms of comfort, especially in regions with unfavourable climatic conditions. Accordingly, the buildings need to be built to keep out moisture and should afford good heat insulation.

The underlying objective of the invention is to design individual parts for buildings or building components of the type outlined above, which are particularly easy to manufacture, transport and assemble, but which provide better protection against damp and better heat insulation once the resultant buildings are erected, as well as being more durable.

This objective is achieved by the invention by means of a profiled strip of the type outlined above, having at least one groove-shaped interlocking cavity for the

wall panel elements. Profiled strips of this type provide a cleaner join of the walls assembled using the wall panel elements, enabling the walls to be joined to one another in a sealed arrangement, depending on the number of interlocking cavities, even in the corner region. These profiled strips also enable the wall panel elements to be assembled with one another by sealed joints. The same applies when it comes to framing openings, such as windows and doors, for example. The profiled strips are designed so that they are very easy to assemble, since the wall panel elements merely have to be inserted in the profiled strips.

In one embodiment of the invention, the interlocking cavity(ies) are designed with interlocking webs of different widths, the wider web in each case serving as the mounting web. This being the case, the mounting web is advantageously provided with mounting orifices, for example slots disposed at regular intervals. By means of this mounting, the profiled strips can be secured to a sub-structure made from wood, for example the base frame or support structure mentioned above, using simple means such as nails or similar.

In another embodiment of the invention, the profiled strip is made from a material that is easy to work with, in particular easy to saw. As a result, the profiled strips can be readily adapted to the respective circumstances on site, for example in terms of their length. Plastics are recommended as a suitable material, in particular PVC rigid, since plastics are

resistant to corrosion on the one hand and are easy to work with using a basic tool such as a saw, on the other.

By virtue of another feature of the invention, the width of the interlocking cavity becomes smaller from the inside towards the outside, at least in the region of the interlock opening. Consequently, the wall panel elements with the profiled strips can be appropriately adapted and clamped to another, thereby securing a better fit and improved insulation.

The invention further proposes that a covering web be moulded onto the rear face of the interlocking cavity, which advantageously extends perpendicular to the mounting web. A profiled strip of this type is primarily suitable for framing openings such as doors or windows, where the covering web serves as a facing for the window or door frame.

As a result of another feature proposed by the invention, the narrower interlocking webs initially extend out from the join with the mounting web at an acute angle thereto.

The invention also proposes that the profiled strip should have two interlocking cavities. A profiled strip of this design is especially well suited to joining two wall panel elements to one another and for use on the corners of walls assembled from these wall panel elements. With regard to the latter, the interlocking cavities advantageously extend at a right angle

relative to one another, since the corners of buildings usually subtend a right angle.

The invention also proposes that the profiled strip should be of a symmetrical folding design, so that they lend themselves to universal applications in particular.

By virtue of another feature of the invention, the interlocking cavities are joined to one another by their rear faces, advantageously by a connecting web.

In one embodiment, the profiled strip proposed by the invention is designed so that the interlocking cavities have a connecting web forming the common rear wall. This profiled strip is particularly simple in design and therefore saves on material. It is of advantage if the narrow interlocking webs are joined to one another in a rounded arrangement.

In another embodiment of a profiled strip with two interlocking cavities, the connecting web is respectively moulded onto the narrower interlocking webs. In the case where the interlocking cavities are disposed at a relative angle, there are two possible alternatives. In one alternative, the narrower interlocking webs are disposed on the outside, in which case the connecting web is respectively extended in a straight arrangement. This type of connecting strip is primarily designed for external walls facing the sub-structure. In the other alternative, the narrower interlocking webs are arranged on the inside, in which

case the connecting web extends perpendicular to the line bisecting the angle. This profiled strip is suitable for assembling internal walls, since it can be secured to an internally lying corner by means of the mounting webs.

Moulding the connecting web onto each of the narrower interlocking webs makes these profiled strips particularly elastic, enabling them to be adapted to different corner angles in a relatively wide frame. In this latter alternative, the elasticity is still further enhanced if the connecting web is moulded onto the free edges of the interlocking webs.

For practical purposes, the interlocking cavities proposed by the invention are also U-shaped.

Another alternative for the design of the profiled strip is characterised by the fact that the connecting web is provided in the form of a hinge. The advantage of this is that the profiled strip can be adapted to the respective angle needed for the interlocking cavities. This is even possible to the degree that the profiled strip may be used both for joining wall panel elements arranged adjacent to one another and for framing them in the corner region. The hinge advantageously consists of the connecting web, which is of a plastically deformable design and may be made from the same material as the profiled strip itself. This hinge is distinctive due to its particular simplicity, quite apart from the fact that it provides a tight seal and is resistant to corrosion.

The invention also proposes that the connecting web designed to serve as a hinge should be moulded onto the rear edges of the respective wider interlocking webs. This specifically makes for a bigger pivoting range for the hinge if each of the two interlocking webs is joined to the web part extending along them at an acute angle. This being the case, it is of advantage if the acute angle is at most 45E, which will enable this profiled strip to be used as a corner section and for building internal as well as external walls. Particularly effective geometric dimensioning is obtained if the interlocking webs which have the web part extending at an acute angle are the narrower ones.

Also used as a means of achieving the objective set by the invention is a wall panel element of the type outlined above, in which at least two opposing side faces are designed to serve as complementary parts of an interlocking connection when another wall panel element of the same type is placed in abutment, forming a mutual overlap. This component is also encompassed by the concept proposed by the invention as a means of achieving the set objective of proposing a modular construction concept using components which have an interlocking cavity, at least on the side face, which encloses the element on the co-operating side face to be received. Designing the side faces of the wall panel elements in this manner makes it easier to build a wall. Even more time can be saved if these wall panel elements are used in conjunction with the profiled strips proposed by the invention.

In one embodiment of the invention, hooking strips are moulded on the side faces to enable the wall panel elements to be hooked into one another, thereby ensuring a positive-fit connection. This being the case, it is of practical advantage to provide the hooking strips opposite one another so hooking always takes place from the same side.

By virtue of another feature of the invention, the side faces have pieces extending beyond the hooking strips to provide a mutual overlap. These extended pieces prevent rain water from penetrating the walls assembled from the wall panel elements.

The invention also proposes that one of the two extended pieces should be designed as a mounting strip with mounting orifices. This mounting strip may be used to secure the respective wall panel element by one side face to a sub-frame, whilst the other side face is hooked into the next wall panel element.

In order to secure the wall panel element forming the terminal part of a wall, in particular the terminal part at the bottom where it can not be secured to a sub-frame, the invention proposes a terminal strip having a hooking strip and a mounting strip with mounting orifices, into which the wall panel element can be hooked by means of its hooking strip.

As an alternative to providing the side faces with hooking strips, the invention proposes that one of the

side faces should be provided with a slot-in groove for inserting an appropriately designed opposite side face of another of these wall panel elements. In this embodiment, the wall panel elements are simply pushed one inside the other by their side faces so that they overlap.

In order to secure this wall panel element onto a sub-frame, it is of advantage if the side face with the slot-in groove has an extension piece with mounting orifices. To prevent the fixing means from presenting an obstacle when the wall panel elements are being assembled with one another, the wall panel element has an indentation in the region which lies opposite the mounting orifices once the adjacent wall panel element has been inserted in the slot-in groove.

As another feature, the invention proposes that at least one of the sides with the slot-in groove should have an inwardly projecting edge and the oppositely lying side face should have an edge projecting in the opposite direction with an adjoining recess on the flat side. These edges enables these wall panel elements to be hooked to one another to a certain degree, thereby producing a very secure interlocking connection.

The invention also proposes that the wall panel element should be of a double-walled design. This will provide good heat insulation in spite of being lightweight. This being the case, it is of advantage if the walls of the wall panel elements are joined to one another by cross-pieces, for reasons of strength.

Finally, the invention proposes that the wall panel elements should be made from a material that is easy to work with, in particular easy to saw, for example a plastics material. This will also enable the wall panel elements to be rapidly adapted on site to the respective circumstances without any difficulty. Using plastics will also eliminate any problems that might otherwise be caused by corrosion.

The invention will be explained in more detail with reference to embodiments illustrated as examples in the appended drawings. The drawings - with the exception of Fig. 17 - show perspective views.

Fig. 1 is a front view of a house corner;

Fig. 2 is a profiled strip, preferably for facing a window frame;

Fig. 3 is a window frame corner using the profiled strip illustrated in Fig. 2, shown in section;

Fig. 4 is a profiled strip with two interlocking cavities;

Fig. 5 is the profiled strip illustrated in Fig. 4 used to join two wall panel elements;

Fig. 6 is the profiled strip illustrated in Fig. 4 used for an external wall;

Fig. 7 is the profiled strip illustrated in Fig. 4, used for an internal wall;

Fig. 8 is a rigid corner section for an external wall;

Fig. 9 is the corner section illustrated in Fig. 8 used for an internal wall;

Fig. 10 is a flexible corner section for an external wall;

Fig. 11 is the corner section illustrated in Fig. 10, adapted for use on an internal wall;

Fig. 12 is a wall panel element with hooking strips;

Fig. 13 is a wall in cross section, made up of wall panel elements of the type illustrated in Fig. 12;

Fig. 14 is a terminal strip for the wall panel element illustrated in Fig. 12;

Fig. 15 is a terminal strip as illustrated in Fig. 14 and a wall panel element as illustrated in Fig. 12, in the interlocked assembled state;

Fig. 16 is another wall panel element;

Fig. 17 is a horizontal section through a house

corner with an external wall assembled from wall panel elements as illustrated in Fig. 16 And an internal wall assembled from wall panel elements as illustrated in Fig. 12.

Fig. 1 is a perspective view of the corner of a house 1. The walls 2, 3 of this house 1 consist of wall panel elements 4, fitted individually one above the other. At the house corner 5, the wall panel elements 4 locate in a corner section 6, extending perpendicular. This corner section 6 provides the house corner 5 with a clean structure and an effective seal.

Mounted in the wall 2 is a window 7, which is surrounded by window frame sections 8 having a mitred cut at the corners so as to frame the wall panel elements 4. These window frame sections 8 also provide the clean structure for the window opening on the one hand and afford a good seal against moisture and loss of heat and cold, on the other.

The window frame sections 8 are illustrated in more detail in Figs. 2 and 3. As illustrated by the perspective view in Fig. 2, the window frame section 8 has a groove-shaped interlocking cavity 9 formed by two interlocking webs 10, 11. Wall panel elements can be inserted in this interlocking cavity 9, as illustrated in Fig. 1 and Fig. 3, for example.

The interlocking web 10 shown on the left-hand side of this diagram is wider than the oppositely lying interlocking web 11 and has slots in the form of

mounting orifices 12. In order to secure the window frame sections 8 to a sub-structure, made from wood for example, 2 nails or similar fixing means may be driven in through these mounting orifices, enabling the window frame sections 8 to be simply and rapidly secured. The oppositely lying interlocking web 11 initially extends at an acute angle to the interlocking web 10 and then becomes almost parallel therewith.

A covering web 13 is moulded onto the rear face of the interlocking cavity 9 at a right angle to the wider interlocking web 10 and forms the frame sides of the window opening in the assembled state. This is illustrated particularly clearly in Fig. 3, in which the bottom lower corner of the window 7 shown in Fig. 1 is illustrated in more detail in section. Two window frame sections 8 meet at their mitred ends in this corner and are secured to the window frame 14. Inserted in the interlocking cavities 9 are wall panel elements 14 but unlike those illustrated in Fig. 1, they are arranged adjacent to one another rather than one above the other. These wall panel elements are illustrated in more detail in Figs. 16 and 17.

Fig. 4 illustrates a profiled strip 16. This profiled strip 16 has two interlocking cavities 17, 18, each of which is respectively designed with two interlocking webs 19, 29 and 21, 22, similar to the window frame section 8 illustrated in Fig. 2. The two wider, flat interlocking webs 19, 21 with their mounting orifices 23 again serve as mounting webs, by means of which the profiled strip 16 can be nailed to the sub-structure,

for example a wooden post or similar. The narrower interlocking webs 20, 22 initially extend from their join with the wider interlocking webs 19, 21 at an acute angle thereto, thereby subtending a V-shape. The angle between these two interlocking webs 20, 22 is approximately 90E.

The two interlocking cavities 17, 18 of the profiled strip 16 are joined to one another by a narrow connecting web 24 at the rear edges of the interlocking webs 19, 20, 21, 22, the cross section thereof being dimensioned so as to be plastically deformable. The interlocking cavities 17, 18 can therefore be pivoted towards one another along this connecting web 24, for example by 90E, in the direction of the arrows A-B to produce a corner section. The flexibility of the connecting web 24 makes it useful for various different applications, such as those illustrated in Figures 5, 6 and 7. Fig. 5 shows the profiled strip illustrated in Fig. 4, used as a horizontally extending connecting strip between two wall panel elements 25, which locate in the interlocking cavities 17, 18. Naturally, the profiled strip 16 may also mounted so as to extend vertically.

Fig. 6 shows the profiled strip 16 used as a corner section, where the wider interlocking webs 19, 21 are bent towards another by 90E along the connecting web 24. They may therefore be secured to the external edge of a square wooden post 26. The interlocking cavities 17, 18 are used to accommodate the wall panel elements, not illustrated, to form an external wall.

Fig. 7 illustrates the reverse situation of that shown in Fig. 6. Here, the profiled strip 16 is bent in the opposite direction so that the obliquely extending parts of the narrow interlocking webs 20, 22 lie adjacent to one another. The wide interlocking webs 19, 21 in this case are secured to the side faces of two square wooden posts 27, 28 forming an internal corner. The interlocking cavities 17, 18 also accommodate wall panel elements, not illustrated, but in this instance form an internal wall.

Fig. 8 illustrates a profiled strip 29 of a different design from that of the profiled strip 16, which, having no flexible connecting web, can be used on corners and edges only. This corner section 29 also has two interlocking cavities 30, 31, each of which is formed by two interlocking webs 32, 33, 34, 35. The rear walls of the interlocking cavities 30, 31 are formed by a common rigid connecting web 36, which extends on the line bisecting the angle subtended by the interlocking cavities 30, 31.

The inner interlocking webs 32, 34 are wider than the outer interlocking webs 33, 35 and with their mounting orifices 35a form the webs which can be nailed onto a corner edge of a wooden post, for example. The interlocking cavities 33, 31 will then accommodate the wall panel elements, not illustrated, to form an external wall.

The two outer interlocking webs 33, 35 are of a

narrower design and do not extend parallel with the inner interlocking webs 32, 34 but are disposed relative thereto so that the interlocking cavities 30, 31 taper towards the opening. If the width of the inserted wall panel element is adapted accordingly, this will produce a clamping effect.

The corner section 37 illustrated in Fig. 9 is in principle of the same design as that illustrated in Fig. 8 but is specifically adapted so that it can be used to form an internal corner for internal cladding. The two outer interlocking webs 38, 39 which stand at a right angle relative to one another are wider than the two inner interlocking webs 40, 41 in this instance and are provided with mounting orifices 42. They can therefore be fixed onto an internal corner, such as that formed by the two wooden posts 27, 28 illustrated in Fig. 7.

The two inner interlocking webs 40, 41 are narrower and are joined by a rounded piece, subtending an angle greater than 90E. The interlocking cavities 44, 45 formed by the interlocking webs 38, 39, 40, 41 and a connecting web 43 for receiving wall panel elements therefore taper towards the opening in order to produce the clamping effect mentioned above.

Fig. 10 illustrates another embodiment of a corner section 46. This corner section 46 also has two interlocking cavities 47, 48, each of which is formed by two respective interlocking webs 49, 50, 51, 52 and two rear walls 53, 54 extending perpendicular thereto,

thereby imparting a U-shape to the interlocking cavities 47, 48.

The two inner interlocking webs 50, 42 are wider than the two outer ones and have mounting orifices 55 enabling this corner section 46 to be used on external corners to form an external wall. The outer interlocking webs 49, 51 do not extend parallel with the two inner interlocking webs 50, 52 but extend so that the interlocking cavities 47, 48 taper towards the opening.

A connecting web 56 is moulded onto the rear edges of the outer interlocking webs 49, 51, respectively forming an extension thereof, resulting in an angled shape. This connecting web 56 is the only connection between the two interlocking cavities 47, 48 since a gap is left free between the adjacent rear edges of the wide interlocking webs 50, 42. This type of connection is more resilient than that of the corner sections 29, 37 illustrated in Figs. 8 and 9 so that this corner section 46 can also be used for corners which do not subtend an exact right angle.

Fig. 11 illustrates a corner section 57, which corresponds in principle to that illustrated in Fig. 10 but is adapted for an internal wall. Accordingly, the outer interlocking webs 58, 59 are wider than the inner interlocking webs 60, 61 and are provided with mounting orifices 62, by means of which this corner section 57 can be secured to an internal corner, such as that formed by the wooden posts 27, 28 illustrated in Fig.

7.

The two interlocking cavities 63, 64 extending at a right angle to one another are bounded respectively by the two interlocking webs 58, 60 and 59, 61 and the rear walls 65, 66 connecting them, the interlocking cavities 63, 64 also tapering towards the openings. Both interlocking cavities 63, 64 are linked by a connecting web 67 moulded onto the ends of the narrow, inwardly lying interlocking webs 60, 61 and extending perpendicular to the line bisecting the angle. There is no connection between the rear edges of the narrow interlocking webs 60, 61 and there is merely a gap. This corner section 57 is therefore very resilient and can also be adapted to corners subtending an angle other than 90E.

Fig. 12 illustrates a wall panel element 68, which is specifically designed to interlock with the sections described above. The other reason why it is distinctive is that it provides good heat insulation and can be readily joined to other wall panel elements of the same design and additionally joined to a sub-structure.

The wall panel element 68 is of a double-walled design, the two walls 69, 70 being joined by cross-pieces 71 forming a row of hollow sections. A hooking strip 74, 75 is provided on each of the two side faces 72, 73 and forms a slot-in groove 76, 77 opening towards the respective side face. The left-hand hooking strip 74 illustrated in this diagram is designed as an extension of the bottom wall 70, whilst the right-hand hooking

strip 75 in this drawing sits directly adjoining the side face 73, although the bottom wall 70 is offset from the top one in this region . The hooking strips 74, 75 themselves are designed to be the inverse one of the other, so that the wall panel elements 68 will fit with one another when placed alongside one another, one hooking strip respectively locating in the slot-in groove of the other hooking strip.

The side faces 72, 73 have pieces extending beyond the hooking strips 75, 75. The extension piece in the left-hand part of this drawing is designed as a mounting strip 78 and is provided with mounting orifices 80 for this purposes, by means of which the wall panel element 68 can be nailed to a sub-structure. The extension piece formed on the right-hand side face 73 in this drawing serves as a covering web 79 and overlaps with another wall panel element when placed alongside it. It is therefore offset towards the exterior.

Fig. 13 illustrates one of several wall panel elements 68 of the type illustrated in Fig. 12 assembled to form a wall 81, the reference numbers used in relation to Fig. 12 being used to described each of the wall panel elements 68 described here. From this vertical cross section through the wall 81, the connection between the individual wall panel elements 68 and with the sub-structure consisting of three wooden battens 82, 83, 84 are visible.

Two wall panel elements 68 are assembled with one another by firstly nailing the top edge of a wall panel

element 68 to the middle wooden batten 83, for example, by means of the mounting orifices in the mounting strip 80, which are not visible. Another wall panel element 68 is than positioned on top. To this end, it is seated with its bottom side face 73 on the top side face 72 of the previously secured wall panel element 68 and pushed towards the wooden batten 83 until the covering strip 79 abuts with the wall 69. The top wall panel element 68 is then lifted so that the two hooking strips 74, 75 locate with one another, resulting in the position illustrated in Fig. 13. The mounting strip 78 on the top side face of the positioned wall panel element 68 is then nailed onto the wooden batten 84 lying above it so that the wall panel element 68 is retained at both side faces. This same procedure is repeated for the wall panel elements 68 mounted above.

Fig. 14 illustrates a terminal strip 85 for the respective lowermost wall panel element 68 illustrated in Figs. 13 and 14. This terminal strip 85 is basically identical to the part of the wall panel element 68 adjoining the side face 72 illustrated in the left-hand part of Fig. 12. Accordingly, it consists of a mounting plate 86 with a hooking strip 87 formed thereon and a mounting strip 88 with mounting orifices 89 forming part of the mounting plate 86.

Fig. 15 shows a combination of the terminal strip 85 illustrated in Fig. 14 and the wall panel element 68 illustrated in Figs. 13 and 12, the reference numbers used for these drawings being used again here. The wall panel element 68 with its hooking strip 75 is pushed

from underneath behind the hooking strip 87 and into the terminal strip 85, which is nailed on first, so that the wall panel element 68 is lifted slightly in order to hook it in and then secured at the top edge by means of its mounting strip 78.

Fig. 16 illustrates another embodiment of a wall panel element 90. This wall panel element 90 is also provided with double walls 91, 92, joined by cross-pieces. On the left-hand side face 93 in this drawing, the walls 91, 92 extend farther, thereby forming a slot-in groove 93. The bottom extension is wider than the top one and forms a mounting strip 96 with mounting orifices 97. The wall panel element 90 can be nailed onto wooden battens by means of this mounting strip 96 in the same way as the embodiment described with reference to Fig. 12.

The opposing side face 98 on the right-hand side of this drawing is of a width which is dimensioned so that it can be inserted in the slot-in groove 95 of an adjacent wall panel element 90 of identical design. To this end, the part of the wall 92 adjoining the side face 98 is offset, so as to form a projecting edge.

Also set back is the wall between the second and the third cross piece 93, as viewed from the right. When placed alongside a wall panel element 90, this part of the wall 91 sits in the region of the other's mounting orifices. Accordingly, the there is room for the heads of the nails that will be driven in at the point where the mounting orifices are located and they will not

collide with the wall 91.

Fig. 17 provides a horizontal section of the corner of a house, seen in plan view. The house has an internal wall 99 and an external wall 100. Both walls 99, 100 are secured to vertically erected wood posts 101, 102, 103, 104, which have a square cross section.

The internal wall 99 is made of wall panel elements 68 of the type individually illustrated in Fig. 12, the same reference numbers again being used here. These wall panel elements 68 are not positioned in consecutive rows with their side faces 72, 73 aligned in a perpendicular direction as illustrated in Fig. 13 but are arranged one after the other in the horizontal direction so that the side faces 72, 73 extend vertically. Apart from this difference, the individual wall panel elements 68 are connected to one another and to the wooden posts 101 and 104 in the same way as described with reference to Fig. 13.

The assembly procedure is performed by nailing the wall panel elements 68 to the respective subsequent wooden post 101 and 104 by their mounting strips 78 starting fro the corner, positioning the adjoining wall panel element 68 by hooking in the hooking strips 74, 75 and in turn nailing them to the next wooden post, not illustrated, and so on.

In the corner where they abut with one another, the side faces 73 of the wall panel elements 68 with the covering strips 79 and the hooking strip 75 are each

slotted into a profiled strip 16 of the type illustrated in Fig. 4, bent as illustrated in Fig. 7, and nailed to the two wooden posts 102, 103 standing above the corner. The interlocking webs 19, 20, 21, 22 of this profiled strip 16 thus form two interlocking cavities 17, 18 extending at a right angle to one another, into which the wall panel elements 68 are slotted.

The external wall 100 consists of the wall panel elements 90 illustrated in Fig. 16, which in this instance are also placed one adjacent to the other by their vertically extending side faces 94, 98. Starting form the corner, the wall panel elements 90 are nailed onto the next respective wooden posts 101, 104 by their mounting strips 96. The respective adjoining wall panel elements 90 are then inserted in the slot-in grooves 95.

At the outwardly lying corner, the wall panel elements 90 are inserted in the profiled strip 16 which - as with those lying on the inside - corresponds to those illustrated in Fig. 4 but bent along the connecting web 24 as illustrated in Fig. 6. The wider interlocking webs 19, 21 in this instance stand out at a right angle to one another and, in conjunction with the narrower interlocking legs 20, 22, form two slot-in grooves 17, 18 into which the wall panel elements 90 can be inserted by their side faces 98.

As may be seen particularly clearly from this drawing, the individual wall panel elements 68, 90 can be joined

to one another and to the sub-structure consisting of the wooden posts 101, 102, 103, 104 in a simple manner. The same applies to the corner region, where the profiled strips 16 ensure a secure connection.